

Translation

PATENT COOPERATION TREATY

PCT/EP2003/003314



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2701PCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/003314	International filing date (day/month/year) 31 March 2003 (31.03.2003)	Priority date (day/month/year) 03 April 2002 (03.04.2002)
International Patent Classification (IPC) or national classification and IPC B61H 5/00		
Applicant KNORR-BREMSE SYSTEME FÜR SCHIENENFAHRZEUGE GMBH		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>8</u> sheets.</p>
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>

Date of submission of the demand 31 October 2003 (31.10.2003)	Date of completion of this report 30 July 2004 (30.07.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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International application No.

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I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
 pages 4-17, as originally filed
 pages _____, filed with the demand
 pages 1-3, filed with the letter of 11 June 2004 (11.06.2004)
- ☒ the claims:
 pages _____, as originally filed
 pages _____, as amended (together with any statement under Article 19
 pages _____, filed with the demand
 pages 1-21, filed with the letter of 11 June 2004 (11.06.2004)
- ☒ the drawings:
 pages 1/2-2/2, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-21	YES
	Claims		NO
Inventive step (IS)	Claims	1-21	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-21	YES
	Claims		NO

2. Citations and explanations

1. Reference is made to the following documents:

D1: DE 199 45 701 A (KNORR BREMSE GMBH)
19 April 2001.

2. Document D1 is considered to be the prior art closest to the subject matter of claim 1. Said document discloses (the references between parentheses refer to D1): a brake applying device for vehicles, said brake applying device having a slack adjuster (128) that comprises a device for the emergency release of the brake (see column 5, lines 26-31).

The subject matter of claim 1 therefore differs from the known device of D1 in that the brake applying device additionally comprises a device for the auxiliary release of the brake, both the auxiliary release device and the emergency release device being combined in one device for both emergency and auxiliary release of the brake, said combined device, which is electrically actuated by a common drive unit, being integrated into a slack adjuster

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which is in the form of a pull rod, or push rod, adjuster with a screw mechanism, the threaded parts of the screw mechanism comprising a threaded spindle and a nut that can be screwed along said threaded spindle, at least one of the threaded parts being electrically actuated for the emergency and auxiliary release of the brake.

Thus, the subject matter of claim 1 is novel (PCT Article 33(2)).

The problem addressed by the present invention can consequently be regarded as that of making it possible for a brake application device with emergency and auxiliary release devices to be of a simple design, easy to operate and, in addition, more compact.

This problem is solved in that the release functions of the brake, namely emergency and auxiliary release, which were hitherto assigned to separate modular units of the brake application device, are integrated into a single combined device for emergency and auxiliary release, said combined device being electrically actuated by a common drive unit and integrated into a slack adjuster which is in the form of a pull rod, or push rod, adjuster with a screw mechanism, the threaded parts of the screw mechanism comprising a threaded spindle and a nut that can be screwed along said threaded spindle, at least one of said threaded parts being electrically actuated for emergency and auxiliary release of the brake.

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The solution to this problem, as proposed in claim 1 of the present application, involves an inventive step (PCT Article 33(3)). The reasons are as follows: document D1 discloses a brake applying device with a mechanical emergency release device that is not electrically actuated and is not combined with a device for the auxiliary release of the brake.

- 2.1 Claims 2-21 are dependent on claim 1 and, in consequence, also satisfy the requirements of the PCT in respect of novelty and inventive step.
- 2.2 The industrial applicability of claims 1-21 is acknowledged.